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Decontamination Plan

Illinois Central Railroad (IC) – Minter City Derailment

Minter City, Mississippi

Prepared for: **Illinois Central Railroad (IC)**

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April 2015 • 11102224 (4)

Partners in Sustainability

Table of Contents

List of Figures
(Following Text)

List of Appendixes
(Following Figures)

Section 1.0 Introduction

This Decontamination Plan is designed to aid in the prevention of cross contamination, public/worker health and safety, and efficient demobilization of equipment and personnel in response to the Illinois Central (IC) train derailment on March 31, 2015, near Minter City, Mississippi. On March 30, 2015, at 2030 hours, rail cars being transported by IC derailed near the town of Minter City, Mississippi, at railroad Mile Post 102 (Yazoo Subdivision) (Site). A vicinity map of the Site is provided as Figure 1. Of the 10 derailed rail cars, one breached and leaked a portion of its contents (dicyclopentadiene [DCPD]) onto the IC right-of-way and adjacent railroad ditches (see Figure 2).

Section 2.0 Personnel Decontamination Procedures

All PPE will be disposed of and/or decontaminated at the conclusion of each workday as described below. Decontamination procedures will follow the concept of decontaminating the most contaminated PPE first. Refer to the JHA found in Appendix A covering specific decontamination procedures and required PPE.

All disposable equipment shall be removed placed in the proper receptacle before breaks and at the conclusion of the workday, and will be replaced with new equipment prior to commencing work.

Procedures for decontamination must be followed to prevent the spread of contamination and to eliminate the potential for chemical exposure:

- **Personnel:** Decontamination will be initiated prior to exiting the contaminated work area and completed prior to exiting the decontamination area (see Figure 2).
- **Modified Level D**: First, remove outer protective wear. Remove gloves and properly dispose in designated waste container. Wash hands and face.
- **Level C**: Wash and rinse outer gloves, boots and suit, and remove; remove respirator; dispose of cartridges; wash respirator; and remove inner gloves and dispose. Wash hands and face. Handle all clothing inside out when possible.

Section 3.0 Hand Tools and Recovery Equipment Decontamination Procedures

All hand tools and product removal equipment must be decontaminated or discarded upon exit from the contaminated area. A temporary decontamination pad with a high-pressure washer will be set up on site during project operations (see Figure 2). All materials produced during decontamination will be containerized for subsequent disposal pending analytical analysis.

Procedures for decontamination must be followed to prevent the spread of contamination and to eliminate the potential for chemical exposure:

- **Hand Tools and Recovery Equipment**: Remove solid debris by method of dry decontamination, wash and rinse with low-volume high-pressure washer within the temporary decontamination pad.
- **Safety Precautions:** Proper PPE should be utilized by all personnel conducting decontamination procedures, please see JHA attached as Appendix A.

Section 4.0 Heavy Equipment Decontamination Procedures

All heavy equipment must be decontaminated upon exit from the contaminated area. A temporary decontamination pad with a low-volume high-pressure washer will be set up on site during project operations (see Figure 1).

Procedures for decontamination must be followed to prevent the spread of contamination and to eliminate the potential for chemical exposure:

- **Dry Decontamination**: Remove solid debris by method of dry decontamination, this method will minimize decontamination waste water. For heavy equipment the use of hand tools (i.e. shovels, scrapers, pry bars, etc.) should be utilized to remove the majority of solid debris from the heavy equipment (i.e. tracks buckets, blade, rollers, etc.).
- **Low-Volume High-Pressure:** Wash and rinse equipment that has come in contact with the released product ONLY. This process will involve a low-volume high-pressure washer within the temporary decontamination pad to remove any residual product from the heavy equipment.

- **Recovery of Decontamination Waste:** Throughout the decontamination process solid and liquid levels will be monitored to determine the degree of waste removal. Liquid waste will be removed from the decontamination pad via a vacuum truck and transferred to a frac tank for disposal pending analytical results. All solids will be removed via hand tools and stored in the appropriate container pending analytical results.
- **Inspection of Decontamination Pad:** The decontamination pad should be inspected daily any and all liquids should be removed from the decontamination pad via a vacuum truck. In the event of a rain event the decontamination pad should be secured in a way that no added rain water is collected.
- **Safety Precautions:** Proper PPE should be utilized by all personnel conducting decontamination procedures, please see JHA attached as Appendix A.

Section 5.0 Decontamination Waste Disposal Procedures

Decontamination waste water and solids will be managed as indicated in the *Soil/Water/Debris Management Plan* attached as Appendix B.

FIGURES

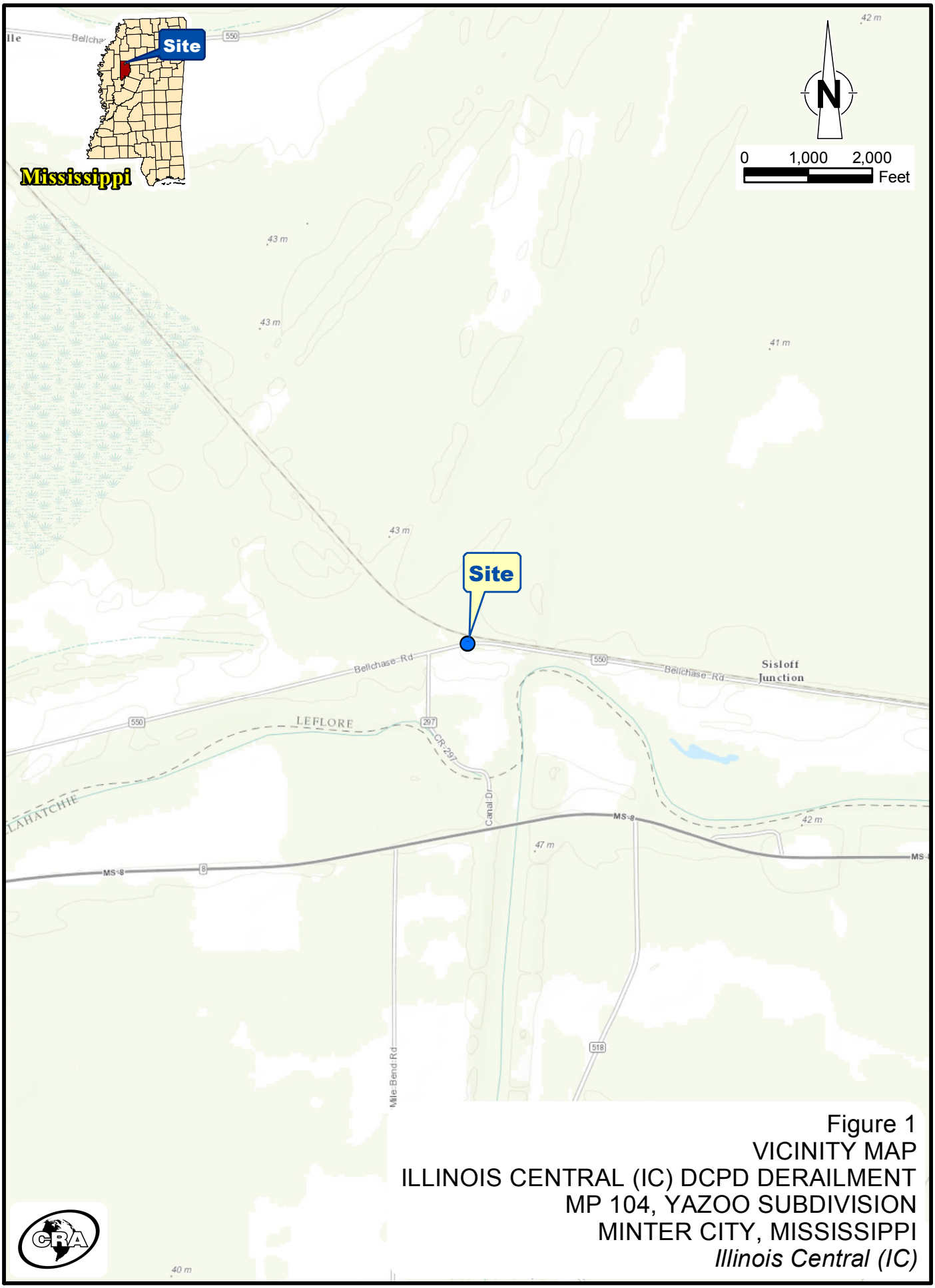

Figure 1
VICINITY MAP
ILLINOIS CENTRAL (IC) DCPD DERAILMENT
MP 104, YAZOO SUBDIVISION
MINTER CITY, MISSISSIPPI
Illinois Central (IC)

RE: Esri World Topographic Map.

3/31/2015

Figure 3
SITE PLAN (APRIL 6, 2015)
ILLINOIS CENTRAL (IC) DCPD DERAILMENT
MP 102.6, YAZOO SUBDIVISION
MINTER CITY, MISSISSIPPI
Illinois Central (IC)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

RE: Esri World Imagery (2011).

11102224-00(000)PR-BR008 4/6/2015

APPENDIX A

Job Hazard Analysis

JOB HAZARD ANALYSIS (JHA)

Heavy Equipment Decontamination – High Pressured Hot Water

Safety Means Awareness Responsibility Teamwork

Field staff must review job-specific work plan and coordinate with project manager to verify that all up-front logistics are completed prior to starting work including, but not limited to, permitting, access agreements, and notification to required contacts (e.g., site managers, inspectors, clients, subcontractors, etc.). Additionally, a tailgate safety meeting must be performed and documented at the beginning of each workday. **Stop, Think, Act, Review (STAR)** must be used prior to any activity. All personnel must possess the appropriate training prior to initiating scheduled tasks. Also consider weather conditions. CRA personnel have the authority and responsibility to use **Stop Work Authority (SWA).**

Date Issued/Revised:	April 5, 2014	**JSA Type:**	Construction
Work Type:	Environmental/Construction	**Client:**	Illinois Central Railroad (CN)
Work Activity:	Pressure washing - portable		
Work Site:	CN – Minter City Derailment, Minter City, Mississippi		
Key Equipment:	2,000 to 4,000 psi pressure washer - portable; gasoline, kerosene, or diesel powered		
Task-specific Training:	40-Hour HAZWOPER; HASP		

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT (see job steps for task-specific requirements)					
☐ Reflective Vest	☐ Goggles	☒ Gloves*	**Supplied Air**	**APR**	
☒ Hard Hat	☒ Face Shield*	☐ Coveralls*	☐ SCBA	☐ Full Face APR	☐ Particulate ☐ Organic Vapor
☐ Lifeline/Harness*	☒ Hearing Protection*	x PPE Clothing*	☐ Airline Respirator (attach description)	☐ Half Mask APR	☐ Particulate/Organic Vapor Combined
☒ Safety Glasses	☒ Safety-toed Boots				☐ Acid Gas
☒ Other*			☐ Other*	☐ Other*	
ADDITIONAL PPE (*provide specific type(s) or descriptions of this item below)					
Splash shield, poly coated Tyvek, Based upon the specific task activites, the following type(s) of gloves will be worn in accordance with the Glove Selection Guideline (HSE Procedure RMR 005-Personal Protective Equipment): ANSI Level 3 Oil/Solvent Resistant = Memphis™ Ultra Tech Nitrile Cut & Splash					

Project Development Team **Name**	**Signature**	**Position/Title**	**Modified By**	**Reviewed By**	**Position/Title**	**Date**
Nathan L. Judice		PM				
David Wilkinson		SS				

JOB HAZARD ANALYSIS (JHA)

Heavy Equipment Decontamination – High Pressured Hot Water

Safety Means Awareness Responsibility Teamwork

Job Steps[1]	Task Activity	Potential Hazard(s)[2]	Corrective Measure(s)[3]	Person Responsible
1	Inspect equipment	• Equipment malfunction • Leaks • Missing/broken components • Pinch points • Spills	• Complete a daily equipment checklist • Wear ANSI level 3 Cut Resistance, Oily surface grip gloves at all times • Thoroughly check hose, hose fitting, pressure wand, o-rings, leaks, pressure tips, engine oil, fuel type, etc. • Reference Manufacturer's Operation and Maintenance Manual for **specific** daily checks	Operator

JOB HAZARD ANALYSIS (JHA)

Heavy Equipment Decontamination – High Pressured Hot Water

Safety Means Awareness Responsibility Teamwork

Job Steps[1]	Task Activity	Potential Hazard(s)[2]	Corrective Measure(s)[3]	Person Responsible
2	Mobilize and set up equipment	• Slip/trip/fall hazards • Back strain • Property damage • Unsecured • Uneven terrain • Heavy lifting	• Get assistance (buddy system) when moving washer either physically or means of powered equipment • Wear ANSI level 3 Cut Resistance, Oily surface grip gloves at all times • Use proper lifting techniques; keep back straight and knees slightly bent when placing unit into the decon area • Keep hose(s) and wand securely on unit • Place washer on solid, level ground • Determine your route of travel to work area; avoid uneven ground, slopes, and inclines • Secure washer if transporting by truck, trailer, or loader using nylon ratchet straps; DO NOT use chains or bungee cords • Determine best place to position washer to account for length of hose to reach all points of washing • Clean face shields and goggles as needed • Check, clean, and secure all hose connections. • Arrange hoses in a way which prevents loops and kinks. • Never connect or disconnect fittings under pressure	Operator & Spotter
4	Connect water source to pressure washer	• Splashing • Slip hazard • Pinch points • Improper fittings • Water pressure • Property damage • Personal injury • Electrical - electrocution	• Don appropriate PPE (poly coated Tyveks, rubber gloves, rubber overboots, splash shield, hard hat, hearing protection, etc.) • Wear ANSI level 3 Cut Resistance, Oily surface grip gloves at all times • Check water hose condition and connections • Install one end of hose to unit first and then to water source • Slowly release water into pressure washer unit; avoid excessive splashing and don't leave unit unattended • Keep hands and fingers clear of pinch points • Minimize water pooling; tighten connections as necessary to avoid slip hazards • Keep water away from electrical panels, outlets, and power cords	Operator

JOB HAZARD ANALYSIS (JHA)

Heavy Equipment Decontamination – High Pressured Hot Water

Safety Means Awareness Responsibility Teamwork

Job Steps[1]	Task Activity	Potential Hazard(s)[2]	Corrective Measure(s)[3]	Person Responsible
5	Operate pressure washer In this Order: 1. Select proper wash tip 2. Start the washer unit 3. Move into position 4. Hold pressure wand and handle firmly with both hands 5. Point wand in area to begin wash Pull trigger and begin washing	• High pressure (>2,000 psi) hot water which could cause burns or personal injury • Flying debris • Slip/trip hazards • Hose whipping • Kink in hose • Equipment malfunction • Property damage • Hand and wrist fatigue/numb • Noise • Poor visibility • Windy conditions • Clogged pressure tips •	• Wear ANSI level 3 Cut Resistance, Oily surface grip gloves at all times • Review MSDS on type of potential chemicals exposure (diesel and gasoline) • Wear splash shield and hearing protection • Determine wind direction and place back to the wind to avoid over spray of water back into the operator's face • Install proper washing tip on the end of wand; turn unit off, relieve pressure from unit, and let it cool down before changing tips • Keep both hands on the wand at all times to avoid excessive fatigue and numbness in hand and wrists • Keep hands off metal section of wand to avoid a burn to the hand • Do not point the spray towards others, ground, or hose • Position your body off to one side during washing to prevent deflection of material debris back in your direction; keep a safe distance between surface to be washed and the spray • Keep hoses free and clear to avoid trips; be aware of your surroundings • Keep face shield clear as best as you can; stop washing and wipe off as needed • Never unclog a tip while the unit is running; shut off unit, depressurize hose and wand, then remove tip for cleaning • Keep hands, feet, and eyes out of the "line of fire" of the spray; gloves, boots, etc., are not intended to protect against high pressure • DO NOT use steam washer to remove debris from clothing (PPE) or any parts of the body!	Operator
6	End of task 1. Relieve pressure 2. Turn off water supply to unit and disconnect 3. Shut off equipment 4. Allow to cool down 6. Storage	• Burns (muffler) • Hose damage • Equipment damage • Theft • Slips Back strain	• Doff PPE and dispose of properly • Relieve pressure on hose and drain the water from hose and unit • Avoid placing hands on muffler section of washer unit; allow unit to cool down before handling and or filling with gasoline • Drain hose and wrap up to unit; inspect hose for excessive wear or blistering • During cold temperatures, winterize unit using environmentally safe anti-freeze • Secure unit inside connex trailer or use chain and padlock to prevent theft • Check unit over and make sure all components (tips, wand, hose) are in good condition • Turn gasoline valve to off/close when not in use or in storage • Use proper lifting techniques when moving unit and get assistance (buddy system)	Operator and Spotter

(1) Each Job or Task consists of a set of steps. Be sure to list all the steps in the sequence that they are performed. Specify the equipment or other details to set the basis for the potential (associated) hazards.

(2) A hazard is a potential danger. What can go wrong? How can someone get hurt? Consider, but do not limit, the analysis to: **Contact** - victim is struck by or strikes an object; **Caught** - victim is caught on, caught in or caught between objects; **Fall** - victim falls to ground or lower level (includes slips and trips); **Exertion** - excessive strain or stress/ergonomics/lifting techniques; **Exposure** - inhalation/skin hazards. Specify the hazards and do not limit the description to a single word such as "Caught".

(3) Aligning with the Job Steps, Task Activity Description, and Potential Hazard columns, describe what actions or procedures are necessary to eliminate or minimize the hazards. Be clear, concise and specific. Use objective, observable, and quantified terms. Avoid subjective general statements such as "be careful" or "use as appropriate".

APPENDIX B

Soil/Water/Debris Management Plan

CONESTOGA-ROVERS & ASSOCIATES

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SOIL/WATER/DEBRIS MANAGEMENT PLAN

Illinois Central Railroad (IC) – DCPD Derailment

Minter City, Mississippi

Prepared for: **Illinois Central Railroad (IC)**

Conestoga-Rovers & Associates
5551 Corporate Blvd, Suite 200
Baton Rouge, Louisiana 70808

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Purpose: Management of waste generated during the incident include the following: 1) Disposal of impacted soil, liquids, and debris generated during emergency response / remediation activities, 2) Collection, management, and disposal of impacted spill response materials (i.e. absorbents, booms, etc.) generated during emergency response / remediation activities, 3) Disposal of impacted tank car jacket and insulation generated during generated during salvage operations, 4) Disposal of fluids (stormwater, decontamination water, impacted surface water, etc.) generated during emergency response / remediation activities, and 5) Disposal of non-impacted woody vegetation and other site debris.

CN Responsibilities: Properly profile all waste streams for off-site disposal at approved facilities; contract transportation company(ies); and coordinate loading of any waste into trucks, roll-off containers, frac tanks or other approved vessels. CN will provide record of quantities disposed for each waste stream; conduct weekly inspections of contained waste stockpiles (if necessary); and record retention of the waste from point of generation to disposal (cradle to grave).

Safety: Site personnel will review and adhere to health and safety procedures while in the exclusion zone.

Breathing zones will be monitored through Air Monitoring/Sampling Work Plan during the activities performed.

Train traffic will be monitored at access points during shipments of waste from the Site.

Wastestream #1 – Dicyclopentadiene (DCPD) (liquid):

- A CN freight train derailed on 3/30/15 and resulted in a release of DCPD.
  - A waste profile will be generated for liquid DCPD released on site. The subject waste will be classified based on analytical results.
  - CN personnel are designated agents to sign manifest(s).
    - Generator: Illinois Central Railroad
    - Description: DCPD liquid released on site.
  - Copies of manifests and/or weight tickets for the subject waste will be collected by CN on-site Environment Department representatives or their designated contractor. These documents will be retained for reporting purposes.
  - The subject waste will be maintained in on-site frac tanks. The waste will be loaded from the frac tanks to tanker trucks for transport to an approved facility for disposal or recycling. Any non-contaminated product recovered from the tank cars following the incident will be managed as product and therefore not be a waste.
  - Subject waste will be shipped to an approved facility, see options below.

    Cymetech Corporation (Manufacturing facility of product)
    2468 Industrial Parkway
    Calvert City, Kentucky 42029
    (662) 363-2282

    Transportation:
  - CN will coordinate disposal truck traffic. CN will arrange for escorts, as necessary, into and out of the work area.
  - Trucks will transport subject waste to the selected facility with prior approval from US EPA and MDEQ.

    Crew/Equipment:
  - 1 personnel
  - Purpose: Directing safety and logistics of removal of the trucks from the work area(s) and documenting number of loads removed from the site.

Wastestream #2 – Stormwater, Decontamination Water, and Impacted Site Water:

- A CN freight train derailed on 3/30/15 and resulted in a release of DCPD.
  - A waste profile and/or discharge approval will be generated for liquids on site. The subject waste will be classified based on analytical results.
  - CN personnel are designated agents to sign manifest(s).
    - Generator: Illinois Central Railroad
    - Description: Stormwater, decontamination water, and impacted site water.
  - Copies of manifests, weight tickets, and/or volume discharged for the subject waste will be collected by CN on-site Environment Department representatives or their designated contractor. These documents will be retained for reporting purposes.
  - The subject waste will be maintained in on-site frac tanks. The waste will be loaded from the frac tanks to tanker trucks for transport to an approved facility for disposal or recycling. Any non-contaminated stormwater recovered from the site ditches following the incident will be managed as waste, pending analytical results for proposed discharge (see *Recovery and Containment Plan)*.
  - Subject waste will be discharged on site if approved or shipped to an approved facility for solidification and disposal, see options below.

Tunica Landfill (a Waste Management facility)
6035 Bowdre Road
Robinsonville, Mississippi 38664
(662) 363-2282

Leflore County Landfill (a Waste Connections facility)
15200 Highway 49 South
Sidon, Mississippi 38954
(662) 453-8550

Big River Landfill (a Waste Connections facility)
15200 Highway 49 South
Sidon, Mississippi 38954
(662) 453-8550

Transportation:

- CN will coordinate disposal truck traffic. CN will arrange for escorts, as necessary, into and out of the work area.
- Trucks will transport subject waste to the selected facility with prior approval from US EPA and MDEQ.

Crew/Equipment:

- 1 personnel

Purpose: Directing safety and logistics of removal of the trucks from the work area(s) and documenting number of loads removed from the site.

Wastestream #3 – Dicyclopentadiene (DCPD) – Impacted Derailment Waste:

- A CN freight train derailed on 3/30/15 and resulted in a release of dicyclopentadiene.
  - A waste profile will be generated for impacted rail car jackets and insulation based on MSDS, generator knowledge, and analytical results. *** Waste profile will be approved by MDEQ and the waste facility. Depending on analytical testing results will be classified as hazardous or non-hazardous.
  - CN personnel are designated agents to sign manifest(s).
    - Generator: Illinois Central Railroad
    - Description: Rail car jackets and insulation impacted with DCPD.
  - Copies of manifests and weight tickets for the subject waste will be collected by CN on-site Environment Department representatives or their designated contractor. These documents will be retained for reporting purposes.
  - The subject waste determined to be non-hazardous will be loaded directly into tarped and lined dump trucks/end dumps or roll-off containers and transported to the approved landfill facility for disposal.
  - Subject waste will be shipped to an approved facility, see options below.

Tunica Landfill (a Waste Management facility)
6035 Bowdre Road
Robinsonville, Mississippi 38664
(662) 363-2282

Leflore County Landfill (a Waste Connections facility)
15200 Highway 49 South
Sidon, Mississippi 38954
(662) 453-8550

Big River Landfill (a Waste Connections facility)
15200 Highway 49 South
Sidon, Mississippi 38954
(662) 453-8550

- Subject waste determined to be classified as hazardous will be transported to an approved hazardous waste disposal facility.

Transportation:

- CN will coordinate disposal truck traffic. CN will arrange for escorts, if necessary, into and out of the work area.
- Trucks will transport subject waste to an approved licensed facility.

Crew/Equipment:

- 1 personnel
- Purpose: Directing safety and logistics of removal of the trucks from the work area and documenting number of loads removed from the site.

Wastestream #4 – Soils and Debris Impacted with DCPD:

- A CN freight train derailed on 3/30/15 and resulted in a release of DCPD.
  - A waste profile will be generated for impacted soils, minor debris, and absorbent material based on MSDS, generator knowledge, and analytical results. *** Waste profile status will be approved by MDEQ and waste facility. Depending on analytical testing results will be classified as hazardous or non-hazardous.
  - CN personnel are designated agents to sign manifest(s).
    - Generator: Illinois Central Railroad
    - Description: Soil and debris impacted with DCPD.
  - Copies of manifests and weight tickets for the subject waste will be collected by CN on-site Environment Department representatives or their designated contractor. These documents will be retained for reporting purposes.
  - The subject waste will be loaded directly into tarped and lined dump trucks/end dumps or roll-off containers and transported to the approved landfill facility for disposal.
  - Subject waste will be shipped to an approved facility, see options below.

Tunica Landfill (a Waste Management facility)
6035 Bowdre Road
Robinsonville, Mississippi 38664
(662) 363-2282

Leflore County Landfill (a Waste Connections facility)
15200 Highway 49 South
Sidon, Mississippi 38954
(662) 453-8550

Big River Landfill (a Waste Connections facility)
15200 Highway 49 South
Sidon, Mississippi 38954
(662) 453-8550

Approved by Unified Command

_____	_____	_____
Responsible Party (RP)	FOSC	SOSC